

REMARKS

On January 3, 2008, an Office Action was mailed. The Office Action mailed January 3, 2008 was superseded by an Office Action mailed on January 22, 2008. This Amendment is in response to both Actions, but more directly to the superseding Office Action mailed on January 22, 2008 (hereinafter “Office Action”).

Claims 1-30 remain pending in the current application. Claim 1 has been amended in form to provide a more clear antecedent basis for two terms; no new matter has been added. Claims 3, 6, and 13 have been amended to include definitions of certain acronyms. Thus, no new matter has been added. Support for the instant amendments is provided throughout the as-filed specification. Likewise, amendments to the specification and replacement drawings are to be found herein and/or attached hereto.

In view of the foregoing amendments and following comments, allowance of all the claims pending in the application is respectfully requested.

ARRANGEMENT OF THE SPECIFICATION (SECTION 1 OF THE OFFICE ACTION)

The specification was amended to include section headings in order to comport with the preferred layout for the specification of a utility application.

OBJECTIONS TO THE DRAWINGS (SECTION 2 OF THE OFFICE ACTION)

In the first paragraph of Section of the Office Action, the drawings were objected to under 37 C.F.R. 1.83(a). The Examiner requested that the “the at least a first Fibre Channel device and at least a second Fibre Channel device as in claims 1 and 16” be shown.

With regard to this objection, the first and second Fibre Channel devices are in fact shown in the drawings. Figures 7, 8, and 9 have been amended to include reference numerals for these devices; no new matter has been added. First, Applicants have added the reference numerals 26 and 27 for the Fibre Channel Devices to Figure 7. In order to clarify numerals 26 and 27, Applicants have amended the specification to more clearly reference Figure 7 at page 25, line 25 as follows. Specifically, the description now states: “As shown schematically in Figure 7, the [The] preferred embodiment of the present invention enables a slower speed device or devices 26 to be connected to a faster speed device or devices 27”.

Again, no new matter has been added.

Likewise, in Figures 8 and 9, the reference numerals 30, 31 and 50 have been added, respectively; these reference numerals being used on page 26, lines 13 to 24 of the current (PCT) specification as filed to refer to Fibre Channel Devices and hence do not constitute new matter.

In the second paragraph of Section 2 of the Office Action, the Examiner further objected to the drawings “because all blocks in Figures 1-3, 4A, 4B, 5, 7-9 should be labeled with descriptive legends known in the art.” 37 C.F.R. § 1.84(o) states

(o) *Legends.* Suitable descriptive legends may be used subject to approval by the Office, or may be required by the examiner where necessary for understanding of the drawing. They should contain as few words as possible.

Applicants do not believe that any additional text is necessary for understanding the drawings, given that the drawings must always be read in the light of the rest of the specification. Applicants do not understand what the Examiner further requires. For example, Figure 1 is a “schematic representation of a Fibre Channel point-to-point topology” that is explained in detail at lines 9 -17 on page 14 of the specification as filed. If, however, the Examiner believes that any amendment to the drawings in this regard are, indeed, required, the Applicant requests the Examiner to provide more detail related to these “requirements.”

REJECTIONS UNDER 35 U.S.C. §112 (SECTION 3 OF THE OFFICE ACTION)

Claims 1-30 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In order to better understand the present invention, Applicants offer the following paragraph:

The first line of the second paragraph of page 1 of the description explains: “*Modern Fibre Channel (FC) devices support multiple physical link speeds. Directly connecting FC devices with differing link speeds is not possible. Some multispeed devices are able to 'speed negotiate' when connected together. This allows them to find a mutually compatible link speed. In practice, this means that when a slower speed device is connected to a device (or devices) with a faster link speed, the link operates at the slower speed, even when the fast and slow devices are not communicating with each other*”.

In other words, it is known that Fibre

Channel devices operate at different physical link rates, some being faster than others. In the prior art, typically when a slow Fibre Channel device is connected to a fast Fibre Channel device, both devices were forced to operate at the slower speed. This even applies when the fast Fibre Channel device is trying to communicate with another, connected fast Fibre Channel device: they both have to operate at the speed of the slowest Fibre Channel device in the network, which is clearly not optimal. As then mentioned at the first paragraph in the description that follows the statement of invention corresponding to claim 1, namely the paragraph at page 4, lines 12 to 19, says "*The present invention enables a slower speed device or devices to be connected to [a] faster speed device or devices, without forcing the higher speed devices to operate at the lower speed when communicating with each other*". Put simply, the present invention, with its specific claimed buffers and connections, allows fast Fibre Channel devices to operate at their fast rate, regardless of whether there is a slower speed Fibre Channel device connected.

Applicants turn then to section 3 of the Office Action. The Examiner first expresses some confusion with regard to the term "a first buffer", "a second buffer", "a first bypass buffer" and "a second bypass buffer". Applicants respectfully traverse this rejection. The language of claim 1 in itself in respect of the various buffers is entirely clear. The specific description also gives a clear description of one specific embodiment of the invention. As Applicants believe can clearly be understood from the current language of claim 1 and from the specific description, the apparatus in this regard operates as follows. When a first Fibre Channel device wishes to communicate with a second Fibre Channel device, data from the first Fibre Channel device is received at the first port, stored in the first buffer and then forwarded to the second port for transmission to the second Fibre Channel device. When the second Fibre Channel device wants to send data to the first Fibre Channel device, the data is received at the second port and then stored at the second buffer. The data is then forwarded from the second buffer to the first port for transmission to the first Fibre Channel device. In the bypass mode, when the first Fibre Channel device, which in use is connected to the first port, wishes to send data to another Fibre Channel device connected to the first port, data from the first Fibre Channel device is received at the first port and stored in the first bypass buffer and then returned to the first port so that it can be transmitted to another Fibre Channel device connected to the first port. Correspondingly, when the second Fibre Channel device, which in use is connected to the second port, wants to send data to another Fibre Channel device that is connected to the second port, then data is received at the second port from the

second Fibre Channel device and stored in the second bypass buffer, from where it is returned to the second port to be forwarded to another Fibre Channel device connected to the second port. This brief explanation should clarify the Examiner's concern as stated in the second paragraph in section 3 of the Office Action.

With regard to lines 5 and 7 of claim 1, Applicants have amended claim 1 mooting that rejection under 35 U.S.C. §112, second paragraph.

With regard to the objection to lines 25 and 26 of claim 1, Applicants respectfully believe that the description may have been misread by the Examiner. In other words, the preamble of claim 1 does not say that the second Fibre Channel device always operates at a second physical link rate that is higher than the first physical link rate of the first Fibre Channel device. On the contrary, the preamble to claim 1 says that the second Fibre Channel device is capable of operating at a (second) physical link rate that is higher than the (first) physical link rate of the first Fibre Channel device. This is explained in the description. As mentioned above, the first line of the second paragraph of page 1 of the description says “*Modern Fibre Channel (FC) devices support multiple physical link speeds*”. Then, again as mentioned above, the first paragraph in the description that follows the statement of invention corresponding to claim 1, namely the paragraph at page 4, lines 12 to 19, says “*The present invention enables a slower speed device or devices to be connected to [a] faster speed device or devices, without forcing the higher speed devices to operate at the lower speed when communicating with each other*”. Thus, the preamble of claim 1 in effect simply states that the second Fibre Channel device can operate at a (second) physical link rate that is higher than the (first) physical link rate of the first Fibre Channel device. The various ports and buffers and their various interconnections as claimed in claim 1 permit the second Fibre Channel device actually to operate at the (second) physical link rate which is higher than the (first) physical link rate of the first Fibre Channel device regardless of whether or not data words are being sent, all as required in the “whereby” clause of claim 1. This comports with the stated purpose of the present invention, as briefly explained above. In particular, there exist Fibre Channel devices that can operate at different maximum physical link rates. Historically, if these were connected together, put simply they all had to operate at the lowest physical link rate of any of the Fibre Channel devices that are connected. See again the second paragraph on page 1 of the present description. Referring again to the paragraph on page 4, lines 12 to 19 of the present description, the present invention allows slower speed Fibre Channel devices to be connected to higher speed Fibre Channel devices without forcing

the higher speed devices to operate at the lower speed when then (the higher speed devices) are communicating with each other.

With reference next to the examiner's objection to line 27 and the use of the different terms "data words" and "data" in claim 1, these different words have deliberately been used in the claim because Applicants are specifically referring to different things. The point is this. Fibre Channel data consists of data words (i.e. this is the actual or "real" data that needs to be saved at or transmitted between the Fibre Channel devices, and is sent as "frames") and inter frame words (such as ARBS, R-RDYs, FILL, primitives, etc.), which are used to manage the Fibre Channel protocol. This is all well known from the Fibre Channel standard and protocol. There is also some discussion in the present description about these data words and inter frame words. See for example page 17, lines 18 to 30 and page 20, lines 2 to 7. The paragraph spanning pages 22 and 23 also clearly states "*Fibre channel transmission words are arranged in a number of categories: Data Words, Fill Words, Non-Fill Words, Primitive Sequences and Frame Delimiters*".

Thus, when Applicants refer in claim 1 to the various buffers "for storing data", Applicants are simply requiring that there is a buffer that can store data and, for this part of the claim and in the context of what is required of such a buffer, all that is needed is that the buffer can store data and it does not matter what type of data that is. Then, again when Applicants refer to, for example, a first Fibre Channel device that wishes to send data to a second Fibre Channel device, again Applicants deliberately use the broad term "data" because, for these parts of the claim, it does not matter what that data is. Then, in the "whereby" clause at the end of claim 1, which is the only place in claim 1 that specifically uses the term "data words", Applicants really do mean "data words". In particular, in the whereby clause at the end of claim 1, Applicants state that the second Fibre Channel device can operate at the higher second physical link rate regardless of whether or not a first Fibre Channel device is sending data words to a second Fibre Channel device and regardless of whether or not a second Fibre Channel device is sending data words to a first Fibre Channel device. It makes no difference as to whether or not the first Fibre Channel device is sending data words to the second Fibre Channel device or vice versa: the second Fibre Channel device can operate at the "second" (relatively high) physical link rate regardless. The whereby clause is deliberately intended not to make any statement about the other, non-data words, i.e. the inter frame words mentioned above. Applicants wish to add that subsequent

claims bring out further the fact that there are on the one hand data words and on the other hand for example fill words (claim 5), ARB words (claim 6), etc.

With regard to the remaining objections in section 3 of the examination report, Applicants have attached a set of amended claims which include corrections to antecedent basis and definitions for the various terms mentioned by the Examiner. As requested by the Examiner, Applicants have only added these definitions to the first occurrence in the claims of these various terms for clarity. Because these terms are spelt out in the description, see for example pages 15 and 16, no new matter has been added.

CONCLUSION

All matters having been addressed and in view of the foregoing, Applicant respectfully requests the entry of this paper, the Examiner's reconsideration of this application, and the immediate allowance of all pending claims.

Applicant's representative remains ready to assist the Examiner in any way to facilitate and expedite the prosecution of this matter. If any point remains in issue which the Examiner feels may be best resolved through a personal or telephone interview, please contact the undersigned at the telephone number listed below.

Please charge any fees associated with the submission of this paper to Deposit Account Number 033975 (Ref. No. 011765-0307460). The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

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